

DEPARTMENT OF THE ARMY
HEADQUARTERS FIFTH U.S. ARMY AND FORT SAM HOUSTON
Fort Sam Houston, Texas 78234-5000

FSH Regulation
No. 420-3

12 June 1991

Facilities Engineering
WATER USE REDUCTION PROGRAM

Issuance of supplements to this regulation is prohibited, unless specifically approved by Headquarters, Fifth US Army and Fort Sam Houston.

PURPOSE.

a. To establish procedures to be used in implementing a mandatory water conservation program through use reduction, including emergency measures during dry periods.

b. To provide guidance for water conservation and use reduction.

2. APPLICABILITY. This regulation applies to all organizations and activities located on or using the facilities of Fort Sam Houston or Camp Bullis.

3. REFERENCES:

a. Edwards Underground Water District Drought Management Plan and Drought Management Plan Rules.

b. Ordinances of the City of San Antonio.

4. RESPONSIBILITIES

a. All commands/activities located on or using Fort Sam Houston or Camp Bullis.

(1) Provide the guidance and emphasis necessary to ensure compliance with the intent of this regulation.

*This regulation supersedes Headquarters, Fifth U.S. Army and Fort Sam Houston Policy No. 24, SUBJECT: Fort Sam Houston Drought Management Plan, 27 June 1990.

(2) Provide internal inspection programs to ensure compliance within each organization or activity.

b. Directorate of Engineering and Housing (DEH), U.S. Army Garrison (USAG).

(1) Establish a comprehensive water use/conservation plan to ensure compliance with this regulation and other water use reduction or conservation measures adopted to conserve the Edwards Aquifer. Part of this plan must include planting of plants, trees, and grasses that are tolerant of drought and that are adapted to survival in the local environment.

(2) Establish an inspection, monitoring, and enforcement program to implement the Water Use Reduction Program, to include early detection and repair of water leaks in all segments of the distribution system.

(3) Coordinate with the Public Affairs Office to publicize the program through the Fort Sam Houston bulletin, flyers, newspapers and other appropriate media.

(4) Ensure that the Director, Fort Sam Houston National Cemetery (Veteran's Administration), the President, Fort Sam Houston Branch, San Antonio Credit Union, and the President, Eisenhower National Bank are aware of this program, have a copy of this regulation, and implement the same at their facilities.

(5) Publish letters of instruction applicable to occupants of installation family housing and ensure that personnel residing in such housing are aware of the program. Ensure that a copy of this regulation is maintained in each set of family quarters under the control of DEH. Procure and distribute water conservation kits to family housing residents and, where possible, install such kits in unaccompanied personnel housing (UPH) and troop barracks.

(6) Prepare letters for the Garrison Commander's signature through the appropriate chain of command or supervision to violators of the program.

(7) Submit required reports to the Edwards Underground Water District and State of Texas.

(8) Provide a representative to the Military Water Working Group, a group composed of representatives from all military bases in the San Antonio area, chaired by a representative from Randolph Air Force Base.

c. Directorate of Personnel and Community Activities (DPCA),
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(1) Ensure compliance with this regulation and other water use reduction or conservation measures for all facilities under the control or supervision of DPCA.

(2) Publish letters of instruction applicable to occupants of UPH units and ensure that occupants of such units are aware of the program. Ensure that a copy of this regulation is maintained in each UPH unit.

d. The Staff Judge Advocate (SJA), USAG will provide assistance support as necessary.

e. Public Affairs Office (PAO), USAG will publicize water use reduction and conservation measures in all command information media.

5. PROHIBITIONS.

a. Basic prohibitions. Landscape watering by use of individual sprinklers or sprinkler systems is prohibited between 1000 through 2000 daily, regardless of whether any emergency water use reduction stage (paragraph 5d) is in effect. "Individual sprinklers or sprinkler systems" means any method or device used for the application of water to real property other than by the methods or devices set out in paragraph 5b, below. "Landscape watering" is the application of water to any member of the plant kingdom that grows or has been planted out of doors. The hourly restrictions imposed herein are not applicable to watering any plant or seed planted or transplanted in any area within that period of time as necessary to accomplish a reasonable establishment and maintenance of growth, nor are they applicable to the use of treated wastewater or recycled water.

b. Permissible methods. The following methods of landscape watering are generally permitted at any time, except as stated in Appendix A under the Landscape Irrigation, Golf Course, and Recreational, Athletic, and Picnic Areas categories of water use in Stage III.

(1) Watering with an attended hand-held hose with a manual or automatic shutoff nozzle;

(2) Watering with a bucket of a capacity of five 5 gallons or less;

(3) Watering with a drip irrigation system. "Drip irrigation" means an automatic water-saving irrigation system (drip, porous pipe, etc.).

(4) Watering using treated wastewater or recycled water, using any method of application.

c. Waste. Wasting water is prohibited at all times. "Waste" includes, but is not limited to, allowing water to run off into a gutter, ditch, or drain, or failing to promptly report or repair a controllable leak.

d. Emergency Water Use Reduction Stages. The Water Use Reduction Measures in Appendix A are imposed in direct relationship to the level of water in the Edwards Aquifer or the quality of the water, as measured in the Edwards Underground Water District test well J-17 at Fort Sam Houston, in four (4) stages. Water use reduction goals are established for each stage. These reduction goals are: 10% in Stage I, 15% in Stage II, 25% in Stage III, and 30% in Stage IV. These goals are not cumulative: i.e., the total reduction for Stage III is 25%, not 50%. The four emergency stages, and the conditions which prompt a declaration of the beginning or termination of each stage, are:

| <u>STAGE</u> | | <u>TEST WELL LEVEL</u> | |
|--------------|---------------------|------------------------|---------------|
| | | (Beginning | (Termination) |
| I | - Aquifer Awareness | 644 feet | 650 feet |
| II | - Aquifer Watch | 628 feet | 635 feet |
| III | - Aquifer Alert | 612 feet | 620 feet |
| IV | - Aquifer Risk | * | * |

* This condition is irrespective of the test well level, but depends on the amount of total dissolved solids (TDS) in the Aquifer (water quality).

e. Additional Stage II restriction (Designated Watering Days). In addition to the emergency restrictions imposed at the beginning of Stage II (Appendix A), an additional restriction permitting watering only on Designated Watering Days is imposed once Stage II is effective. Designated Watering Days apply to the Other Outdoor and Landscape Irrigation categories of water use set forth and defined in Appendices A and B of this regulation. For family and unaccompanied personnel housing units and troop barracks the Designated Watering Day is determined by the last number of the

building associated with the area to be watered. Watering which may begin at 2000 on a designated day may continue until 1000 of the following day. Designated Watering Days do not apply to the Golf Course, the Stables, or to sports or athletic fields maintained by DPCA. Designated Watering Days are:

(1) Family and unaccompanied personnel housing units and troop barracks: odd numbers - Sundays and Thursdays; even numbers Saturdays and Tuesdays

(2) All other facilities: Mondays and Fridays.

f. Stage IV measures. No specific Stage IV measures are set forth, but additional Water Use Reduction Measures may be necessary. Such additional restrictions will be promulgated by the Commander, USAG or his designee (the Director, DEH) after consultation with the GSJA, and appropriate officials of the Edwards Underground Water District and the City of San Antonio.

6. PROCEDURES.

a. Compliance. The level of the Edwards Aquifer is publicized daily in local newspapers and by radio and television. The reported levels of the Aquifer or the quality of the water will act to trigger the City of San Antonio Drought Management Plan and Water Use Reduction Measures applicable to the City of San Antonio. A declaration of the beginning of any stage will be made by the City Manager and will be published in two daily newspapers. Termination of any stage will be by action of the City Council and will also be similarly published. The Stage which is effective for the City of San Antonio is the Stage applicable to Fort Sam Houston and Camp Bullis. The Commander, USAG or his designee (the Director, DEH) may declare further Water Use Reduction Measures as necessary during any Stage.

b. Emergency Water Use Reduction Measures. See Appendix A.

c. Definitions applicable to Emergency Water Use Reduction Measures. See Appendix B.

APPENDIX A

EMERGENCY WATER USE REDUCTION MEASURES

During excessive dry periods and in direct relationship to the level of water in the Edwards Aquifer or water quality, emergency Water Use Reduction Measures will be imposed in stages. The following are the restrictions and actions to be implemented for the first three stages (I, II, III). Numbers in the text refer to definitions in Appendix B. Paragraph 5e of this regulation contains the additional restriction of watering only on Designated Watering Days once Stage II is entered.

| Category of Water Use | Stage | Reduction Measures |
|--------------------------|------------|--|
| Essential Services | I, II, III | Fire-fighting and health care facility (4) uses - no restrictions. |
| | I | Reduction in fire hydrant and sewer line flushing recommended. |
| | II, III | Hydrant and sewer line flushing on emergency basis only. |
| ----- | | |
| Water Utility (14) | I, II, III | Reduction of system pressure at point of service is recommended. Upon reduction of pressure, fire-fighting services shall be notified and arrangements made for additional pressure when required. Other measures, such as improving leak detection surveys and repair programs, and stabilizing and equalizing system pressure, should be undertaken. |
| ----- | | |
| DPCA Stables | I, II, III | Users are encouraged to reduce water usage by any means available. |
| | II | Watering is restricted to Monday, Wednesday, and Friday and only from 2000 to 1000. |

| | | |
|---------------------------------------|------------|---|
| | III | Lawn and pasture watering is prohibited except with treated wastewater or recycled water. |
| <hr/> | | |
| Military (9) | I, II, III | Users must comply with the mandatory reduction measures for those uses in the Swimming Pool, Aesthetic, Other Outdoor, and Landscape Irrigation categories of water use, except as modified herein. |
| | III | <p>Washing of sedans used by commanders is permitted only once a week and only with a hand-held hose (with automatic or manual shutoff nozzle) or bucket.</p> <p>Washing of all other Government equipment and vehicles is restricted to the absolute minimum required to perform or facilitate necessary maintenance or repair, without regard to the day of the week. For reasons of health or safety, washing of windows, mirrors, and lights of vehicles by hand is always permitted, as is washing of the entire vehicle, if warranted; washing of entire vehicles will only be with a hand-held hose (with automatic or manual shutoff nozzle) or bucket.</p> |
| <hr/> | | |
| Industrial, Commercial, and Other (7) | I, II, III | <p>User is encouraged to reduce water usage by any means available.</p> <p>Compliance with the mandatory demand reduction measures is required for those uses in the Other Outdoor, Landscape Irrigation, Swimming Pool, Golf Course, and Aesthetic categories of water use, regardless of whether the user is an industrial user.</p> |

| | | |
|--|------------|---|
| | II, III | Food service facilities (clubs, snack bars) are prohibited from serving water to patrons except on request. |
| Household (5) | I, II, III | Compliance is mandatory for those uses in the Other Outdoor, Landscape Irrigation, Swimming Pool, and Aesthetic categories of water use. Reduction is recommended for all other uses. User is encouraged to reduce water usage by any means available. |
| Swimming Pool, Hot Tub, etc. | II | Filling permitted for new (10) and existing (2) facilities. Draining permitted only onto pervious surface. |
| | III | Filling and replenishing for new and existing facilities is prohibited. |
| Aesthetic (1) (fountains, ponds, etc.) | II, III | May only use treated wastewater or recycled water. |
| Other Outdoor (12) | II | Washing of impervious surface area (6) is prohibited, except for immediate health and safety reasons. Washing of privately owned mobile equipment limited to Designated Watering Day and only with a hand-held hose (with automatic or manual shutoff nozzle) or bucket. Washing of impervious surface areas (6) is prohibited except for immediate <u>human</u> health and safety concerns. Privately owned mobile equipment washing is permitted only for health and safety reasons over a pervious surface area and only with a hand-held hose (with automatic or manual shutoff nozzle) or bucket. |

| | | |
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| ----- | | |
| Landscape Irrigation (8) (existing (3) plants (13)) | II | <p>Landscape watering using individual sprinkler or sprinkler systems is prohibited, except on Designated Watering Days, and then only between 2000 and 1000. Watering with a hand-held hose (with automatic or manual shutoff nozzle), bucket, or drip irrigation system is permitted at any time, as is the use of treated wastewater or recycled water.</p> <p>Landscape watering is permitted only with a hand-held hose (with automatic or manual shutoff nozzle), bucket or drip irrigation system, and then only on Designated Watering Days between 0500 to 1000 and 2000 to 2400. Treated wastewater or recycled water may be used at any time.</p> |
| ----- | | |
| Landscape Irrigation (8) (new (11) plants (13)) | II | <p>Landscape watering is permitted to maintain adequate growth until established. Thereafter, watering using individual sprinkler or sprinkler systems is prohibited, except on Designated Watering Days, and then only between 2000 1000. Watering with hand-held hose (with automatic or manual shutoff nozzle), bucket, or drip irrigation system is permitted at any time, as is the use of treated wastewater or recycled water.</p> <p>Installation of new plants or turf is prohibited unless all watering will be with treated wastewater or recycled water.</p> |
| ----- | | |
| Golf Course | II | <p>Except for the use of treated wastewater or recycled water, reduction of irrigation between 2000 and 1000. The maximum allowable irrigation times are:</p> |

Greens - Three hours per week
(hand water and sprinklers).

Tees - Two hours per week.

Fairways (landing zones only) -
One and a half hours per week.

Fairways (non-landing zones)
One hour per week.

Roughs - Prohibited; no watering
allowed.

III

Except for the use of treated
wastewater or recycled water,
watering is only permitted for
tees and greens with a hand-held
hose (with automatic or manual
shutoff nozzle) between 0500 to
1000 and 2000 to 2400.

Recreational,
Athletic, and
Picnic Areas

I

Users are encouraged to reduce
water use by any means available.

II

Except for the use of treated
wastewater or recycled water,
areas may be irrigated once every
five days between 2000 and 1000,
not to exceed two hours per week.

III

For playing and athletic fields,
watering is permitted with
hand-held hose (with automatic
or manual shutoff nozzle) or
sprinkler between 0500 to 1000
and 2000 to 2400. No watering of
recreational or picnic areas
during this Stage. Treated
wastewater or recycled water may
be used at any time in any of
these areas. New planting or
turf installation is prohibited
unless all watering will be with
treated wastewater or recycled
water.

APPENDIX B

DEFINITIONS APPLICABLE TO EMERGENCY
WATER USE REDUCTION MEASURES

1. "Aesthetic" use means the use of water for fountains and landscape lakes and ponds, where such use is entirely ornamental and serves no other functional purpose.
2. "Existing facility" means a swimming pool, hot tub, or any similar facility, including residential and Government facilities, installed during any period for which an emergency has not been declared or during an emergency stage which has been later terminated. This term does not include pools specifically maintained to provide habitat for aquatic life.
3. "Existing" landscaping plant means a landscaping plant or vegetable planted during any period for which an emergency stage has not been declared or during an emergency stage which has been later terminated.
4. "Health care facility" means any hospital, clinic, or other health care, dental care, or medical research facility.
5. "Household" use means the use of water for personal needs or for household purposes, such as drinking, bathing, heating, cooking, sanitation or cleaning, whether the use occurs in a residence or in a commercial or industrial type facility. It does not include use of water in the Landscape Irrigation, Other Outdoor, Swimming Pool, and Aesthetic categories of water use.
6. "Impervious surface area" means any structure or any street, driveway, sidewalk, patio or other surface area covered with brick, paving, concrete, tile, or other impervious material.
7. "Industrial, Commercial, and Other use means the use of water integral to the production of goods and services provided by industrial or commercial type facilities. Industrial type facilities include facilities which perform such activities as cooling, boiler feed, cleaning and washing, pollution control, extraction and separation of desirable material from products and waste materials, and the incorporation of water into final products. Commercial type facilities include, but are not limited to, food service facilities (other than troop mess halls), guest houses, and retail facilities (barber shops, shoe repair, etc.).
8. "Landscape Irrigation" means the application of water to grow plants, including vegetables and grass.

9. "Military" use means use of water to accomplish an official national defense purpose or in direct support of a military mission assigned to the using unit or activity. Military use also means use of water to wash Government equipment and vehicles.

10. "New facility" means a swimming pool, hot tub, or any similar facility, including residential and Government facilities, installed during any emergency stage. When the emergency is later terminated, such new facility will be treated thereafter as an existing facility. This term does not include pools specifically maintained to provide habitat for aquatic life.

11. "New" landscaping plant means a landscaping plant or vegetable planted during any emergency stage. When the emergency is later terminated, such new landscaping plant or vegetable will be treated thereafter as an existing landscaping plant.

12. "Other Outdoor" use means the use of water outdoors for the maintenance, cleaning, and washing of structures and privately owned mobile equipment, including trucks, automobiles, and boats, and the washing of streets, driveways, sidewalks, patios, and other similar areas.

13. "Plant" means any member of the plant kingdom, including any tree, shrub, vine, herb, flower, succulent, vegetable, groundcover, or grass species, that grows or has been planted out of doors and is used for either food, landscaping purposes, or for recreational areas such as playgrounds and playing fields.

14. "Water Utility" use means water used for withdrawal, treatment, transmission, and distribution by potable water systems.

The proponent of this regulation is the Staff Judge Advocate, U.S. Army Garrison, Fort Sam Houston. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the Commander, USAG, ATTN: AFZG-JA, Fort Sam Houston, Texas 78234-5000.

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